

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 10/808,469

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

Claims 1-23 (canceled).

Claim 24. (original): A process for fabricating a computer-generated hologram by defining a range which diffraction light obtained by diffraction of incident light leaves, determining a hologram phase distribution for allowing said diffraction light to leave the defined range, quantizing a determined phase distribution to find a quantized depth of a hologram relief, forming a relief on a substrate by photoetching on the basis of a found quantized depth to obtain a relief pattern, and patterning a resin layer using said relief pattern to form a hologram relief on a surface of said resin layer.

Claim 25. (original): A process for fabricating a computer-generated hologram by defining a range which diffraction light obtained by diffraction of incident light leaves, determining a hologram phase distribution for allowing said diffraction light to leave the defined range, quantizing a determined phase distribution to find a quantized depth of a hologram relief and the number of steps of said depth, repeating photoetching given times corresponding to an obtained depth and the number of steps to form a relief pattern on an etching substrate, and patterning a resin layer using said relief pattern to form a hologram relief on a surface of said resin layer.

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Claim 26. (previously presented): The computer-generated hologram fabrication process according to claim 24, wherein said phase distribution is determined per minute elemental hologram piece forming the hologram, and said relief is formed on the basis of a phase distribution obtained by repeatedly arranging a phase distribution of said elemental hologram piece across said substrate.

Claim 27. (previously presented): The computer-generated hologram fabrication process according to claim 24, wherein an optical reflective layer is laminated on and along a relief side or other side of said resin layer.

Claim 28. (previously presented): The computer-generated hologram fabrication process according to claim 24, wherein the number of steps L having the depth of said relief is the N-th power of 2 where N is the number of photoetching cycles.

Claims 29. -39. (canceled).

Claim 40. (previously presented): The computer-generated hologram fabrication process according to claim 25, wherein said phase distribution is determined per minute elemental hologram piece forming the hologram, and said relief is formed on the basis of a phase distribution obtained by repeatedly arranging a phase distribution of said elemental hologram piece across said substrate.

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Claim 41. (previously presented): The computer-generated hologram fabrication process according to claim 25, wherein an optical reflective layer is laminated on and along a relief side or other side of said resin layer.

Claim 42. (previously presented): The computer-generated hologram fabrication process according to claim 26, wherein an optical reflective layer is laminated on and along a relief side or other side of said resin layer.

Claim 43. (previously presented): The computer-generated hologram fabrication process according to claim 25, wherein the number of steps L having the depth of said relief is the N-th power of 2 where N is the number of photoetching cycles.

Claim 44. (previously presented): The computer-generated hologram fabrication process according to claim 26, wherein the number of steps L having the depth of said relief is the N-th power of 2 where N is the number of photoetching cycles.

Claim 45. (previously presented): The computer-generated hologram fabrication process according to claim 27, wherein the number of steps L having the depth of said relief is the N-th power of 2 where N is the number of photoetching cycles.

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Claim 46.-51. (canceled).

Claim 52 (new): The computer-generated hologram process of claim 24, wherein the step of patterning a resin layer using said relief pattern to form a hologram relief on a surface of said resin layer includes pressing the relief pattern against the resin layer, and then curing the resin layer.

Claim 53 (new): The computer-generated hologram process of claim 25, wherein the step of patterning a resin layer using said relief pattern to form a hologram relief on a surface of said resin layer includes pressing the relief pattern against the resin layer, and then curing the resin layer.